

WHAT IS CLAIMED IS:

1. A data transmission apparatus for receiving data transmitted via a line under a noise environment in which two time spaces having different noise levels appear  
5 alternatively, said data transmission apparatus comprising:

a measuring unit which measures a state of the line;

a transmission rate determining unit which determines a transmission rate based on the measured result of the  
10 measuring unit at an interval of the intervals that the noise level is low, whereas determining the transmission rate as zero at an interval that the noise level is high;

a posting unit which posts the transmission rate determined by the transmission rate determining unit to a  
15 transmission side; and

a receiving unit which receives data transmitted via the line at the transmission rate determined by the transmission rate determining unit.

20 2. The data transmission apparatus according to claim 1, wherein, when a predetermined condition is satisfied, the transmission rate determining unit determines the transmission rate based on the measured result of the measuring unit also at the interval that the noise level  
25 is high.

3. The data transmission apparatus according to claim 2, wherein the condition relates to a state of a power supply of the data transmission apparatus or a state which is changed in response to the state of the power supply.

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4. The data transmission apparatus according to claim 3, wherein the power supply is a battery.

5. A data transmission apparatus for transmitting desired data via a line under a noise environment in which two time spaces having different noise levels appear alternatively, said data transmission apparatus comprising:

10 a measuring signal transmission unit which, at the time of starting communication, transmits a predetermined receivable signal at an interval that the noise level is low, whereas transmitting abnormal unreceivable data at an interval that the noise level is high to a receiving side via the line as a measuring signal; and

15 a transmission unit which transmits data to be transmitted at a transmission rate posted from the receiving side via the line.

6. The data transmission apparatus according to claim 5, wherein, when a predetermined condition is satisfied, the measuring signal transmission unit transmits the

predetermined receivable signal as the measuring signal also  
at the interval that the noise level is high.

7. The data transmission apparatus according to claim  
5 6, wherein the condition relates to a state of a power supply  
of the data transmission apparatus or a state which is changed  
in response to the state of the power supply.

8. The data transmission apparatus according to claim  
10 7, wherein the power supply is a battery.

9. A data transmission method under a noise environment  
in which two time spaces having different noise levels appear  
alternatively, the data transmission method comprising the  
15 steps of:

evaluating a level of a noise at an interval that the  
noise level is low and transmitting data at a transmission  
rate which is determined based on the evaluated result; and

setting the transmission rate to zero at an interval  
20 that the noise level is high so as not to transmit data.

10. A data transmission method of receiving data  
transmitted via a line under a noise environment in which  
two time spaces having different noise levels appear  
25 alternatively, the data transmission method comprising the

steps of:

measuring a state of the line;

determining a transmission rate based on the measured  
result at an interval of the intervals that the noise level  
5 is low, whereas determining the transmission rate as zero  
at an interval that the noise level is high;

posting the determined transmission rate to a  
transmission side; and

receiving data at the transmission rate posted to the  
10 transmission side.

11. The data transmission method according to claim 10,  
wherein, when a predetermined condition is satisfied, the  
transmission rate is determined based on the measured result  
15 also at the interval that the noise level is high.

12. The data transmission method according to claim 11,  
wherein the condition relates to a state of a power supply  
on a receiving side or a state which is changed in response  
20 to the state of the power supply.

13. A data transmission method of transmitting a measuring  
signal at the time of starting communication in a noise  
environment in which two time spaces having different noise  
25 levels appear alternatively and measuring this signal so

as to measure a condition of a line and transmitting data at transmission rates determined for each interval based on the measured result, wherein,

at the time of the measurement, a predetermined  
5 receivable signal is transmitted at an interval that the noise level is low, whereas abnormal unreceivable data are transmitted at an interval that the noise level is high.

14. A data transmission method of transmitting data via  
10 a line under a noise environment in which two time spaces having different noise levels appear alternatively, wherein,

at the time of starting communication, a transmission side transmits a predetermined receivable signal at an  
15 interval that the noise level is low, whereas transmits abnormal unreceivable data are transmitted at an interval that the noise level is high via the line as a measuring signal; and

the transmission side transmits data via the line at  
20 a transmission rate posted from the receiving side.

15. The data transmission method according to claim 14, wherein, when a predetermined condition is satisfied, the receivable signal which is predetermined is transmitted also  
25 at the interval that the noise level is high as the measuring

signal.

16. The data transmission method according to claim 15,  
wherein the condition relates to a state of a power supply  
5 on the transmission side or a state which is changed in  
response to the state of the power supply.

17. A computer readable medium for storing instructions,  
which when executed on a computer, causes the computer to  
10 perform data transmission method under a noise environment  
in which two time spaces having different noise levels appear  
alternatively, the data transmission method comprising the  
steps of:

evaluating a level of a noise at an interval that the  
15 noise level is low and transmitting data at a transmission  
rate which is determined based on the evaluated result; and

setting the transmission rate to zero at an interval  
that the noise level is high so as not to transmit data.

20 18. A computer readable medium for storing instructions,  
which when executed on a computer, causes the computer to  
perform a data transmission method of receiving data  
transmitted via a line under a noise environment in which  
two time spaces having different noise levels appear  
25 alternatively, the data transmission method comprising the

steps of:

measuring a state of the line;

determining a transmission rate based on the measured  
result at an interval of the intervals that the noise level  
5 is low, whereas determining the transmission rate as zero  
at an interval that the noise level is high;

posting the determined transmission rate to a  
transmission side; and

receiving data at the transmission rate posted to the  
10 transmission side.

19. A computer readable medium for storing instructions,  
which when executed on a computer, causes the computer to  
perform data transmission method of transmitting a measuring  
15 signal at the time of starting communication in a noise  
environment in which two time spaces having different noise  
levels appear alternatively and measuring this signal so  
as to measure a condition of a line and transmitting data  
at transmission rates determined for each interval based  
20 on the measured result, wherein,

at the time of the measurement, a predetermined  
receivable signal is transmitted at an interval that the  
noise level is low, whereas abnormal unreceivable data are  
transmitted at an interval that the noise level is high.

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20. A computer readable medium for storing instructions,  
which when executed on a computer, causes the computer to  
perform data transmission method of transmitting data via  
a line under a noise environment in which two time spaces  
5 having different noise levels appear alternatively,  
wherein,

at the time of starting communication, a transmission  
side transmits a predetermined receivable signal at an  
interval that the noise level is low, whereas transmits  
10 abnormal unreceivable data are transmitted at an interval  
that the noise level is high via the line as a measuring  
signal; and

the transmission side transmits data via the line at  
a transmission rate posted from the receiving side.

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21. A computer program causes the computer to perform data  
transmission method under a noise environment in which two  
time spaces having different noise levels appear  
alternatively, the data transmission method comprising the  
20 steps of:

evaluating a level of a noise at an interval that the  
noise level is low and transmitting data at a transmission  
rate which is determined based on the evaluated result; and

setting the transmission rate to zero at an interval  
25 that the noise level is high so as not to transmit data.



22. A computer program causes the computer to perform a data transmission method of receiving data transmitted via a line under a noise environment in which two time spaces having different noise levels appear alternatively, the data  
5 transmission method comprising the steps of:

measuring a state of the line;

determining a transmission rate based on the measured result at an interval of the intervals that the noise level is low, whereas determining the transmission rate as zero  
10 at an interval that the noise level is high;

posting the determined transmission rate to a transmission side; and

receiving data at the transmission rate posted to the transmission side.

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23. A computer program causes the computer to perform data transmission method of transmitting a measuring signal at the time of starting communication in a noise environment in which two time spaces having different noise levels appear  
20 alternatively and measuring this signal so as to measure a condition of a line and transmitting data at transmission rates determined for each interval based on the measured result, wherein,

at the time of the measurement, a predetermined  
25 receivable signal is transmitted at an interval that the

noise level is low, whereas abnormal unreceivable data are transmitted at an interval that the noise level is high.

24. A computer program causes the computer to perform data  
5 transmission method of transmitting data via a line under  
a noise environment in which two time spaces having different  
noise levels appear alternatively, wherein,

at the time of starting communication, a transmission  
side transmits a predetermined receivable signal at an  
10 interval that the noise level is low, whereas transmits  
abnormal unreceivable data are transmitted at an interval  
that the noise level is high via the line as a measuring  
signal; and

the transmission side transmits data via the line at  
15 a transmission rate posted from the receiving side.